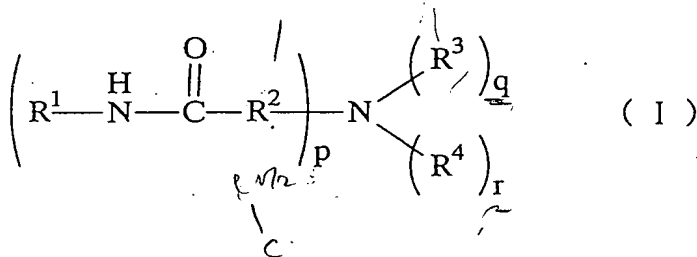


# CLAIMS

1. A hair cosmetic comprising an amine compound  
(hereinafter referred to as amine (I)) represented by  
the formula (I):



(wherein  $\text{R}^1$  represents a straight-chain or branched alkyl or alkenyl group having 8 to 40 carbon atoms or a group represented by the formula  $\text{R}^5\text{O}-(\text{AO})_n-\text{C}_m\text{H}_{2m}$  ( $\text{R}^5$  represents a straight-chain or branched alkyl or alkenyl group having 8 to 40 carbon atoms, A represents an alkylene group having 2 to 3 carbon atoms, n denotes a number from 0 to 30 on the average and m denotes an integer of 2 or 3, where nA's may be the same as or different from one another),  $\text{R}^2$  represents a straight-chain or branched alkylene group having 1 to 5 carbon atoms,  $\text{R}^3$  represents a hydrogen atom, a straight-chain or branched alkyl, alkenyl or hydroxyalkyl group having 1 to 24 carbon atoms or an aryl or arylalkyl group having 6 to 28 carbon atoms,  $\text{R}^4$  represents a hydrogen atom, a straight-chain or branched alkyl, alkylene or hydroxyalkyl group having 1 to 5 carbon atoms or an aryl or arylalkyl group

having 6 to 28 carbon atoms,  $R^3$  and  $R^4$  may form a ring either independently or in combination, p denotes an integer from 1 to 3, q and r denote an integer from 0 to 2 and  $p + q + r$  is equal to 3, that  $pR^1$ 's,  $pR^2$ 's,  $qR^3$ 's and  $rR^4$ 's may be the same as or different from one another.).

2. The hair cosmetic according to claim 1, wherein in the formula (I),  $R^1$  represents a straight-chain or branched alkyl or alkenyl group having 12 to 24 carbon atoms or a group represented by the formula  $R^5O-(AO)_n-C_mH_{2m}$  ( $R^5$  represents a straight-chain or branched alkyl or alkenyl group having 12 to 24 carbon atoms, A, n and m represent the same meaning as above,  $R^2$  represents a straight-chain alkylene group having 1 to 3 carbon atoms,  $R^3$  and  $R^4$  represent a straight-chain or branched alkyl or hydroxyalkyl group having 1 to 3 carbon atoms or an aryl or arylalkyl group having 6 to 28 carbon atoms ( $R^3$  and  $R^4$  may form a ring either independently or in combination), p is 1 or 2 and q and r are 0 or 1.

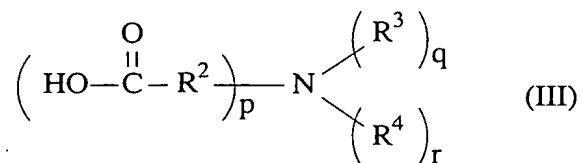
3. A hair cosmetic composition comprising the amine compound (I) as claimed in claim 1 and at least one acid selected from the group consisting of inorganic acids and organic acids.

4. A hair cosmetic composition comprising the amine compound (I) as claimed in claim 1 and an alcohol having 10

to 30 carbon atoms.

5. A hair cosmetic composition comprising the amine compound (I) as claimed in claim 1, at least one acid selected from the group consisting of inorganic acids and organic acids and an alcohol having 10 to 30 carbon atoms, wherein the content of the amine compound (I) is 0.1 to 15% by weight, the content of the acid is 0.3 to 10 mol equivalents to the amine (I) and the content of alcohol having 10 to 30 carbon atoms is 0.5 to 15% by weight.

6. A method of producing the amine compound (I) as claimed in claim 1, comprising reacting a primary amine represented by the formula (II) with an aminocarboxylic acid represented by the formula (III) to run amidation:



(wherein  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$ ,  $p$ ,  $q$  and  $r$  are the same as those of claim 1.)

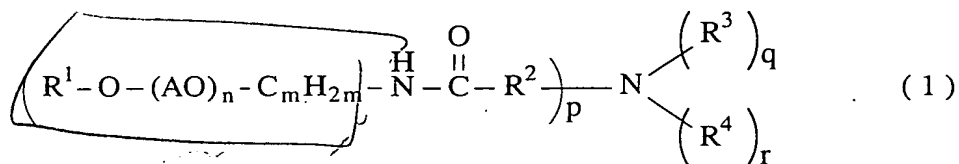
7. The method according to claim 6, wherein  $R^1$  represents a straight-chain or branched alkyl or alkenyl group having 12 to 24 carbon atoms or a group represented by the formula  $R^5O-(AO)_n-C_mH_{2m}$  ( $R^5$  represents a straight-chain or branched alkyl or alkenyl group having 12 to 24 carbon atoms, A, n and m have the same meaning as above,  $R^2$  represents a straight-chain alkylene group having 1 to 3 carbon atoms,  $R^3$  and  $R^4$  represent a straight-chain or branched alkyl or hydroxyalkyl group having 1 to 3 carbon atoms or an aryl or an arylalkyl group having 6 to 10 carbon atoms ( $R^3$  and  $R^4$  may form a ring either independently or in combination), p is 1 or 2 and q and r are 0 or 1.

8. The method according to claim 6, wherein an aminocarboxylic acid represented by the formula (III) is used in an amount of 0.5 to 3 equivalents to one equivalent of the primary amine represented by the formula (II) to run an amidation reaction at 120 to 250°C.

9. The method according to claim 6, wherein the aminocarboxylic acid represented by the formula (III) is obtained by adding an acid to an alkali metal salt of the aminocarboxylic acid.

10. The method according to claim 6, wherein washing with water and solid-liquid separation are carried out after the amidation.

11. An amine represented by the formula (1), an acid salt thereof or a quaternary ammonium salt thereof:

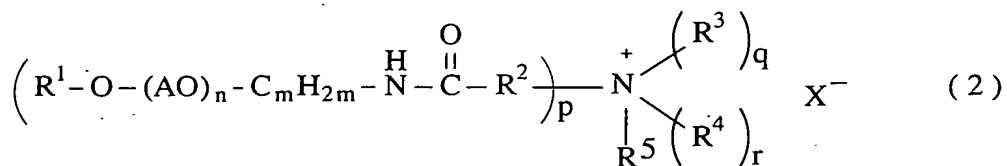


(wherein  $R^1$  represents a straight-chain or branched alkyl or alkenyl group having 8 to 40 carbon atoms, A represents an alkylene group having 2 to 3 carbon atoms, n denotes a number from 0 to 30 on the average and m denotes an integer of 2 or 3,  $R^2$  represents a straight-chain or branched alkylene group having 1 to 5 carbon atoms,  $R^3$  and  $R^4$ , which are the same as or different from each other, represent a hydrogen atom, a straight-chain or branched alkyl, alkenyl or hydroxyalkyl group having 1 to 5 carbon atoms or an aryl or arylalkyl group having 6 to 28 carbon atoms,  $R^3$  and  $R^4$  may form a ring either independently or in combination, p denotes an integer from 1 to 3, q and r denote an integer from 0 to

2 and  $p + q + r$  is equal to 3, provided that ( $n \times p$ ) A's,  $pR^1$ 's,  $pn$ 's,  $pm$ 's,  $pR^2$ 's,  $qR^3$ 's and  $rR^4$ 's may be the same as or different from one another.).

12. The quaternary ammonium salt according to claim 11, which is a compound represented by the formula (2):

Formula (2)



(wherein  $R^1$ ,  $A$ ,  $n$ ,  $m$ ,  $R^2$ ,  $R^3$ ,  $R^4$ ,  $p$ ,  $q$  and  $r$  are the same as above,  $R^5$  represents a straight-chain or branched alkyl or hydroxyalkyl group having 1 to 5 carbon atoms and  $X^-$  represents an anionic ion group.)

13. The amine, the acid salt or the quaternary ammonium salt according to claim 11, wherein  $R^1$  represents a straight-chain or branched alkyl or alkenyl group having 10 to 28 carbon atoms,  $R^2$  represents a straight-chain or branched alkylene group having 1 to 3 carbon atoms and  $p$  denotes an integer from 1 or 2.

14. A surfactant comprising the amine, the salt or the quaternary ammonium salt as claimed in claim 11.

15. Use of the amine compound (I) as defined in claim 1 for cosmetic material.